What is claimed is:

1. A ferroelectric thin film formed of crystals in which directions of polarization axes are inconsistent with an applied electric field direction in a crystal system.

2. A ferroelectric thin film formed of crystals in which directions of 180° domains are inconsistent with an applied electric field direction in a crystal system.

3. A ferroelectric thin film formed of crystals in which directions of 90° domains are inconsistent with a direction perpendicular to an applied electric field direction in a crystal system.

4. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein the 180° domains are arranged at a constant angle to the applied electric field direction in a ferroelectric thin film plane.

5. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein the 90° domains are arranged at a constant angle to the applied electric field direction in a ferroelectric thin film plane.

6. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein the 180° domains reversely rotate in a predetermined electric field with respect to the applied electric field direction in a ferroelectric thin film plane.

7. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein the 90° domains reversely rotate in a predetermined electric field with respect to the applied electric field direction in a ferroelectric thin film plane.

8. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein polarization is arranged at a constant angle to the applied electric field direction in a ferroelectric thin film plane have the same polarization in the same applied electric field.

9. The ferroelectric thin film as defined in any of claims 1 to 3, formed of a polycrystal highly oriented in the applied electric field direction in a ferroelectric thin film plane.

10. The ferroelectric thin film as defined in any of claims 1 to 3,

wherein a polarization axis distribution exhibits no anisotropy with respect to the applied electric field direction in a ferroelectric thin film plane.

11. The ferroelectric thin film as defined in any of claims 1 to 3, using:

a tetragonal $Pb(Zr,Ti)O_3$ ferroelectric which is (111)-oriented along the applied electric field direction with respect to a ferroelectric thin film plane.

12. The ferroelectric thin film as defined in any of claims 1 to 3, using:

a rhombohedral $Pb(Zr,Ti)O_3$ ferroelectric which is (001)-oriented along the applied electric field direction with respect to a ferroelectric thin film plane.

13. The ferroelectric thin film as defined in any of claims 1 to 3, using:

a bismuth-layer-structured ferroelectric which is (111) or (110)-oriented along the applied electric field direction with respect to a ferroelectric thin film plane.

14. The ferroelectric thin film as defined in any of claims 1 to 3, using:

an $SrBi_2Ta_2O_9$ ferroelectric which is (115), (111), or (110)-oriented along the applied electric field direction with respect to a ferroelectric thin film plane.

15. The ferroelectric thin film as defined in any of claims 1 to 3, using:

a $Bi_4T_3O_{12}$ ferroelectric which is (117), (111), (107), or (317)-oriented along the applied electric field direction with respect to a ferroelectric thin film plane.

16. The ferroelectric thin film as defined in claim 11, using a (111)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

17. The ferroelectric thin film as defined in claim 12, using a (001)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

18. The ferroelectric thin film as defined in claim 13, using a (111)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

19. The ferroelectric thin film as defined in claim 14, using a (111)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

20. The ferroelectric thin film as defined in claim 15, using a (111)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

21. The ferroelectric thin film as defined in claim 13, using a (110)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

22. The ferroelectric thin film as defined in claim 14, using a (110)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

23. The ferroelectric thin film as defined in claim 15, using a (110)-oriented platinum group metal electrode with a full width half maximum of 2° or less.

24. The ferroelectric thin film as defined in any of claims 16 to 23, using an alloy electrode of lead and platinum group metal.

25. The ferroelectric thin film as defined in any of claims 1 to 3, formed by using a mixed solution of a sol-gel solution and an metal organic decomposition solution.

26. The ferroelectric thin film as defined in any of claims 1 to 3, comprising silicon, or silicon and germanium in elements of ferroelectric.

27. A method of manufacturing the ferroelectric thin film as defined in any of claims 1 to 26, comprising:

performing crystallization by rapid heating in an oxidizing gas atmosphere at a pressure less than 10 atmospheres.

28. A ferroelectric memory device using the ferroelectric thin film as defined in any of claims 1 to 26.

29. A ferroelectric piezoelectric device using the ferroelectric thin film as defined in any of claims 1 to 26.